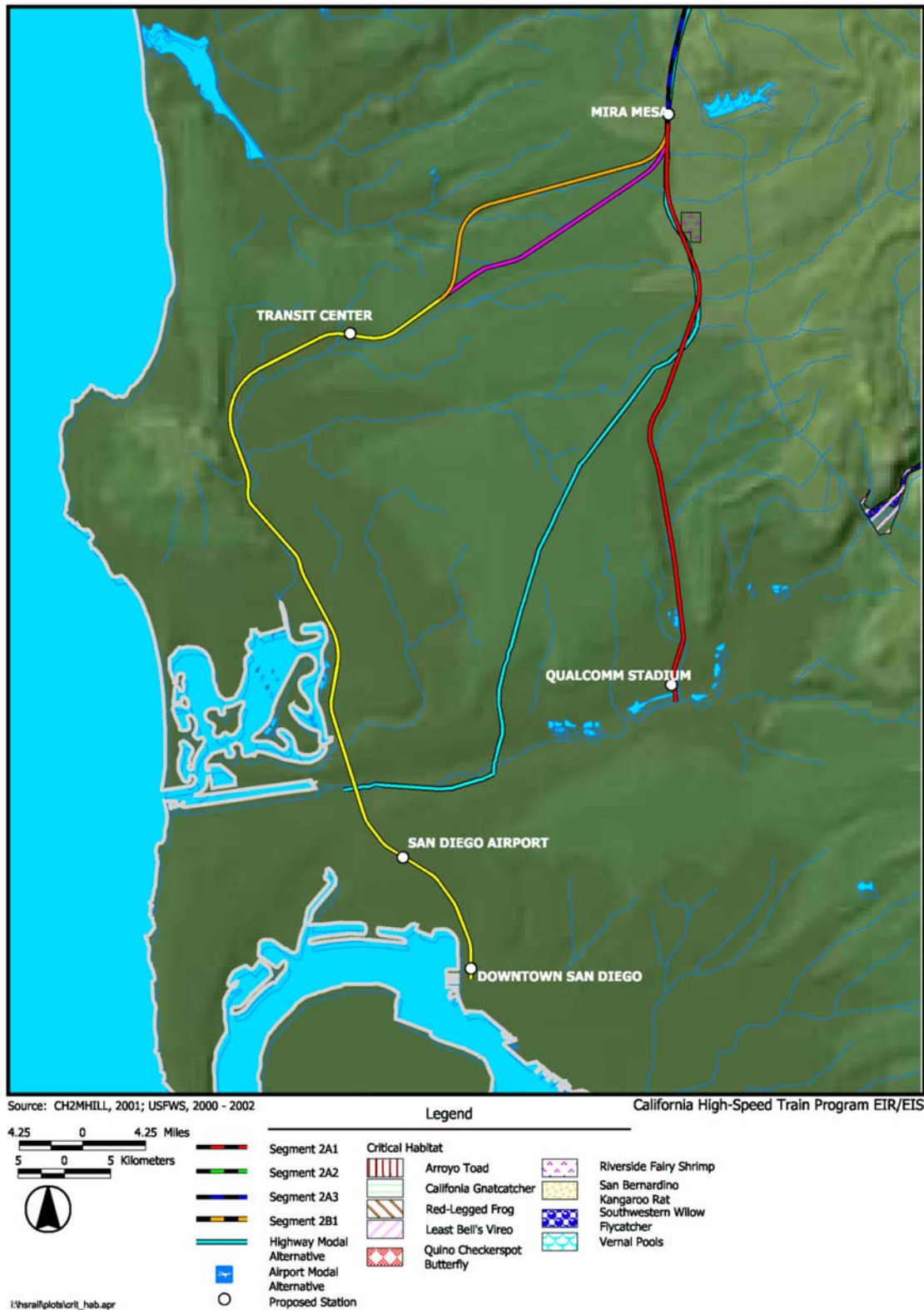


**Figure 2.2-2b USFWS Designated Critical Habitat
March ARB to Mira Mesa**



**Figure 2.2-2c USFWS Designated Critical Habitat
March ARB to Mira Mesa**

The types, general distribution, and descriptions of vegetation communities occurring along the various proposed segments are described in further detail below.

- Annual grasslands (non-native grasslands): A small patch of this community is found just south of the proposed segment, west of Pomona. This community is composed of many native and non-native annual species of grasses and herbs and include bromes (*Bromus* sp.), California poppy (*Eschscholzia californica*), lupines (*Lupinus* sp.), mustards (*Brassica* sp.), oats (*Avena* sp.), ryegrasses (*Lolium* sp.), storksbill (*Erodium* sp.), and star-thistles (*Centaurea* sp.). Emergent shrubs and trees also may be present. Annual grasslands may host European starlings (*Sturnus vulgaris*), house sparrows (*Passer domesticus*), mockingbirds (*Mimus polyglottos*), house finches (*Carpodacus mexicanus*), scrub jays (*Aphelocoma coerulescens*), mourning doves (*Zenaida macroura*), Brewer's blackbirds (*Euphagus cyanocephalus*), and American crows (*Corvus brachyrhynchos*). Annual grasslands also provide important foraging habitat for raptors, including American kestrel (*Falco sparverius*), black-shouldered kite (*Elanus caeruleus*), and prairie falcon (*Falco mexicanus*) (Mayer and Laudenslayer, Jr., 1988).
- Coastal Sage Scrub Community (CSC): In Southern California, this vegetation heavily integrates with the mixed chaparral community. The southern coastal scrub community of the South Coast Range generally are found below 3,000 feet (Holland, 1986). More xeric (drier) intergrades of this community include the Riversidian and Diegan and sage scrub communities found in the interior of the South Coast Range. Small patches of this native community are found scattered along the proposed segment west of Fontana, south San Bernardino, and Riverside east. This community is also found scattered along the I-215 corridor, particularly south of MCAS Miramar.

The term "scrub" refers to the fact that the major plant species found in the community are shrubby species generally 1 to 6 feet tall. Dominant plant species in this community include Black sage (*Salvia mellifera*), coastal sagebrush (*Artemisia californica*), wild buckwheat (*Eriogonum fasciculatum*), and coyote brush (*Baccharis pilularis*). This community is an important habitat for two threatened birds, the California gnatcatcher (*Polioptila californica*) and the cactus wren (*Campylorhynchus brunneicapillus*). Cactus mice (*Peromyscus eremicus*), pocket mice (*Perognathus longimembris*), deer mice (*Peromyscus maniculatus*), coyotes, Merriam kangaroo rats (*Dipodomys merriami*), and mountain lions (*Felis concolor*) are some of the mammal species known to utilize this habitat (Mayer and Laudenslayer, Jr., 1988).

- Chamise Redshank Chaparral (CRC)/Mixed Chaparral Community: Chaparral is the dominant habitat found in the mountains of Southern California. The chaparral along the proposed segments is found at lower elevations, generally below 5,000 feet. Patches of chamise redshank chaparral (CRC)/coastal scrub communities are found near Murrieta and adjacent to Murrieta Creek. There is also an extensive CRC community extending between Rainbow Creek and San Luis Rey River. Most are evergreen, since most of their growth occurs in the cool moist season. This vegetation is often called "sclerophyllous," because the leaves are often small and hard, with waxy coatings or epidermal hairs. These hairs help reduce water loss and also may reduce temperature. Generally, the chamise-redshank series is dominated by almost pure stands of chamise (*Adenostoma fasciculatum*) and redshank (*Adenostoma sparsifolium*); however, along the proposed segment, this vegetation often intergrades with southern mixed chaparral. Other members of this community include bigberry manzanita (*Arctostaphylos galuca*), Chaparral yucca (*Yucca whipplei*), sugar bush (*Rhus ovata*), California buckwheat (*Eriogonum fasciculatum*), holly-leaf cherry (*Prunus ilicifolia*), scrub oak (*Quercus dumosa*), and many species of Coenothus (*Coenothus* sp.) (Holland, 1986; Sawyer and Keeler-Wolf, 1995). This vegetation community generally supports a variety of wildlife, including wrentit (*Chamaea fasciata*), Bewick's wren (*Thryomanes bewickii*), California towhee (*Pipilo crissalis*), scrub jay, California thrasher (*Toxostoma redivivum*), bushtit (*Psatriparus minimus*), plain titmouse (*Parus inornatus*), red-tailed hawk (*Buteo jamaicensis*), great horned owl (*Bubo virginianus*), coyote, mountain lion, bobcat (*Felis rufus*), raccoon, striped skunk (*Mephitis mephitis*), gray fox (*Urocyon cinereoargenteus*), ringtail (*Bassariscus astutus*), western gray squirrel (*Sciurus griseus*), dusky-footed wood rat (*Neotoma lepida*), California mouse, deer mouse, kingsnake (*Lampropeltis getulus*),

Pacific diamondback, racer (*Coluber constrictor*), western fence lizard, and side-blotch lizard (*Uta stansburiana*) (Mayer and Laudenslayer, Jr., 1988).

- Southern Cottonwood Willow Riparian: Just west of Colton, the proposed segments traverse the Santa Ana River, which supports southern cottonwood willow riparian habitat. A small stand of southern cottonwood willow riparian forest also is found in association with a small unnamed drainage just west of Menifee (Romoland Quad). Southern cottonwood willow riparian habitat also is found in association with the San Luis Rey River. A small unnamed drainage north of the proposed Escondido Station (San Marcos Quad) supports southern riparian forest. This community, generally found in association with perennially wet streams and rivers, consists of tall, open, broad-leaved inter-deciduous riparian forests dominated by Fremont cottonwood (*Populus fremontii*), along with several species of willows (*Salix* sp.), with understory generally consisting of shrubby willows (Holland, 1986). This vegetation community is an important habitat for several riparian song birds (passerines), including the least Bell's vireo, and the California gnatcatcher. Other typical animals that are supported by this community include northern orioles (*Icterus galbula*), hooded orioles (*Icterus cucullatus*), phainopeplas (*Phainopepla nitens*), dusky-footed wood rats, rufous-sided towhees (*Pipilo erythrophthalmus*), deer mice, coyotes, and California ground squirrels (Mayer and Laudenslayer, Jr., 1988).
- Southern Sycamore-Alder Riparian Woodland: This vegetation community is found in East Riverside in association with the East Branch of the California Aqueduct (at Box Springs), Rose Canyon, and Carroll Canyon. This habitat is broadly similar to the valley foothill riparian classification scheme (Holland, 1986) and also may be termed as southern cottonwood willow riparian habitat, except that the California sycamore (*Platanus racemosa*) and white alder (*Alnus rhombifolia*) are the dominant species in the canopy layer. Typical understory shrub layer plants include wild grape, wild rose, California blackberry, blue elderberry, buttonbrush, and willows. The herbaceous layer consists of sedges, rushes, grasses, Douglas sagewort, and hoary nettle. Riparian woodland community provides food, water, migration and dispersal corridors, and escape, nesting, and thermal cover for an abundance of wildlife. Sensitive bird species that may utilize this habitat include the least Bell's vireo, western yellow-billed cuckoo, southwestern willow flycatcher, yellow warbler and a host of other passerine birds. A number of mammal species such as deer mice, coyotes, and California ground squirrels are found in this habitat (Mayer and Laudenslayer, Jr., 1988).
- Riparian Scrub Oak: Scrub oak or Nuttall's oak (*Quercus berberidifolia*) is the dominant shrub in the canopy (Sawyer and Keeler-Wolf, 1995). This scrub oak community is generally found at elevations less than 5,000 feet. The scrub oak community is found north of Los Penasquitos Creek, which also supports a southern riparian forest community. Other members of this community include blue blossom (*Ceanothus thyrsiflorus*), Chamise (*Adenostoma fasciculatum*), interior live oak (*Quercus wislizenii*), manzanita (*Arctostaphylos* sp.), poison-oak (*Toxicodendron diversilobum*) (Holland, 1986; Sawyer and Keeler-Wolf, 1995). Wildlife that typically may be found in such habitats includes the acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttalli*), California ground squirrel, western bluebird (*Sialia mexicana*), great horned owl, band-tailed pigeon, plain titmouse, red-shouldered hawk, Pacific slender salamander (*Batrachoseps pacificus*), and western skink (*Eumeces skiltonianus*) (Mayer and Laudenslayer, Jr., 1988).
- Orchards and Vineyards: Orchards, groves, and vineyards are agricultural lands utilized for the purpose of growing various fruit and nut crops. Tree nurseries that provide seedlings for plantation forestry also are included here. This community typically is associated with other agricultural types such as cropland and pasture and often occurs near urban areas in Southern California (Holland, 1986). This community is also frequently associated with annual grassland, shrub habitats (mixed chaparral), and valley-foothill riparian communities. Wildlife such as rabbits and deer browse on the trees. Some wildlife (mourning dove, California quail) use the habitat for nesting and cover. In orchards where nuts (almonds and walnuts) are cultivated, wildlife known to occur includes the northern flicker, scrub jay, American crow, Brewer's blackbird, and California ground squirrel. Orchards where apples, cherries, and figs are cultivated are known to support western bluebirds,

American Robin, mockingbirds, cedar waxwing, warblers, desert cottontail rabbits (*Sylvilagus auduboni*), coyotes, raccoon, and mule deer (Mayer and Laudenslayer, Jr., 1988).

- Lacustrine Wetlands: Lacustrine habitats are inland depressions associated with lakes or dammed rivers (reservoirs) containing standing water, including both the near-shore (limnetic) and deep-water habitat (littoral). These wetlands may be flooded permanently or temporarily by water (Cowardin et al., 1979). Lacustrine wetland habitats support a variety of insects, amphibians, birds, reptiles, and mammals.
- Palustrine Emergent Wetlands: Includes all nontidal wetlands dominated by trees, shrubs, and persistent emergents (Cowardin et al., 1979). Palustrine wetlands may be situated shoreward of lakes, river channels, estuaries, or river floodplains. These vegetated wetlands often are called by various names, including marsh, swamp, bog, and fens. The emergent wetlands have usually perennial vegetation occurring along the shore zone or shoreline. Estuarine habitats are areas where tidal seawater is diluted by flowing fresh water. These habitats are biologically very productive and provide for reproduction, feeding, nesting, and cover for many species of mammals and birds. In the study area, the estuarine habitat associated with the San Dieguito River is a high-quality habitat.
- Vernal Pools: Vernal pools are ephemeral wetlands forming in shallow depressions underlain by a substrate near the surface that restricts the percolation of water (Sawyer and Keeler-Wolf, 1995). A number of sensitive plant species recognized by the CNPS as category 1B—rare, threatened, or endangered in California and elsewhere. In the study area, essentially two types of vernal pools occur: San Jacinto Valley vernal pools in the Perris Basin area of the lower San Jacinto Valley and the San Diego mesa hardpan vernal pools.
- San Jacinto Valley Vernal Pools: These vernal pools are found scattered in the Perris Basin and occur on alkali soils heavy in clay or silt soil, which are domino-traverse-willows soils. Potential areas where these soils occur along the proposed segments in Riverside County include:
 - Adjacent to I-215 south of the City of Perris, along the Perris Drain and San Jacinto River floodplain
 - Adjacent to I-215 just west of Sun City and the Menifee Valley, in association with Salt Creek
 - West of I-15 near Lake Elsinore

A critical habitat for the vernal pools, the San Jacinto-Hemet Unit (Unit 34), has been proposed in this area in association with the San Jacinto River. California Orcutt grass (*Orcuttia californica*), spreading navarretia (*Navarretia fossalis*), and threadleaf bodiæa (*Brodiaea filifolia*) are the prominent sensitive plant species associated with these vernal pools (California Natural Diversity Database [CNDDB], 2002; Sawyer and Keeler-Wolf, 1995).

- San Diego Mesa Hardpan Vernal Pools: The hardpan vernal pools are generally restricted to the Otay Mesa in San Diego County. In the study area potential occurrence of vernal pools along the proposed segments include the areas:
 - Adjacent to I-15, west of MCAS Miramar, associated with San Clemente Canyon
 - Adjacent to SR 163, southwest of MCAS Miramar, north and south of intersection with 52 Freeway
 - Adjacent to SR 163, just south of the intersection with I-805

San Diego button celery (*Eryngium aristulatum*), California Orcutt grass, Cuyamaca Lake downingia (*Downingia concolor*), San Diego mesa mint (*Popogyne abramsii*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and willowy monardella (*Monardella linoides* ssp. *viminea*) are some of the sensitive CNPS list 1B plant species associated with these vernal pools (CNDDDB, 2002; Sawyer and Keeler-Wolf, 1995). San Diego button celery, San Diego mesa mint, San Diego thorn mint, willowy monardella, and Otay mesa mint are some of the federally listed species.

2.3 SENSITIVE VEGETATION COMMUNITIES

In the context of this study, sensitive vegetation communities are those that support vegetation that provides important habitats to wildlife. These communities are also identified as sensitive in the California Department of Fish and Game California Natural Diversity Database (CNDDDB, 2002). The classification of these communities is primarily based on *Preliminary Description of the Terrestrial Natural Communities of California* (Holland, 1986). The description of these communities was derived from *A Manual of California Vegetation* (Sawyer and Keeler-Wolf, 1995) and *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer, Jr., 1988).

The sensitive vegetation communities in the study area include annual grasslands, coastal sage scrub, chamise redshank chaparral/mixed chaparral, southern riparian forest that includes southern cottonwood willow riparian and southern sycamore-alder riparian woodland, and riparian scrub. Figure 2.3-1 is a view of annual grasslands off SR 91 in Riverside County. Figure 2.3-2 depicts a riparian community near San Luis Rey River off I-215; Figure 2.3-3 depicts a coastal sage/chaparral community near MCAS Miramar.



Figure 2.3-1 Annual Grassland Community off SR 91 in Riverside County



**Figure 2.3-2 Southern Cottonwood-Willow Riparian Community,
San Luis Rey River off Interstate 215**



**Figure 2.3-3 Coastal Sage/Mixed
Chaparral Community near MCAS Miramar**

2.3.1 Sensitive Plant Species

Sensitive plant species for this analysis of project impacts include the following:

- Endangered, as recognized federally by the USFWS (FE) or by the State of California (SE). Endangered are those species in danger of extinction.
- Threatened, as recognized federally by the USFWS (FT) or by the State of California (ST). Threatened species are likely to become endangered within the foreseeable future.
- Proposed endangered or proposed threatened, officially proposed for listing (in the *Federal Register*) by the USFWS (FPE or FPT).
- CNPS List 1B, which are plants that are rare, threatened, or endangered in California and elsewhere.

Tables 2.3-1 and 2.3-2 list the various sensitive plant species that potentially occur along the Modal Alternative and HST Alternative segments.

A total of 21 CNPS List 1B plants, 15 federally and state-listed species, and 1 federally proposed species occurs in the study area. Proposed Subsegment 3A1 (Mira Mesa to Qualcomm Stadium) is where the highest number (five species) of federally or state-listed species occur.

Figures 2.3-4a, b, and c summarize the occurrences of threatened and endangered plant and wildlife species in the region, based on the California Natural Diversity Database.

**Table 2.3-1 Sensitive Plants Potentially Occurring
Within the Modal Alternative Highway Improvements**

Common Name	Scientific Name	Status Federal/State/CNPS
I-10		
Brand's phacelia	<i>Phacelia stellaris</i>	--/--/1B
Marsh sandwort	<i>Arenaria paludicola</i>	FE/SE/1B
Parish's gooseberry	<i>Ribes divaricatum</i> var. <i>parishii</i>	--/--/1B
Southern scullcap	<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	--/--/1B
I-215		
Marsh sandwort	<i>Arenaria paludicola</i>	FE/SE/1B
Robinson's pepper-grass	<i>Lepidium virginicum</i> var. <i>robinsonii</i>	--/--/1B
Smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	--/--/1B
San Jacinto Valley crownscale	<i>Atriplex coronata</i> var. <i>notatior</i>	FE/--/1B
I-15		
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	--/--/1B
Encinitas baccharis	<i>Baccharis vanessae</i>	FT/SE/1B
Jaeger's milk-vetch	<i>Astragalus pachypus</i> var. <i>jaegeri</i>	--/--/1B
Long-spined spineflower	<i>Chorizanthe polygonoides</i> var. <i>longspina</i>	--/--/1B
Many-stemmed dudleya	<i>Dudleya multicaulis</i>	--/--/1B
Mun'z onion	<i>Allium munzii</i>	FE/ST/1B
Nuttall's scrub oak	<i>Quercus dumosa</i>	--/--/1B
Orcutt's brodiaea	<i>Brodiaea orcuttii</i>	--/--/1B
Parry's tetracoccus	<i>Tetracoccus dioicus</i>	--/--/1B

**Table 2.3-1 Sensitive Plants Potentially Occurring
Within the Modal Alternative Highway Improvements**

Common Name	Scientific Name	Status Federal/State/CNPS
Ramona horkelia	<i>Horkelia truncata</i>	--/--/1B
San Diego ambrosia	<i>Ambrosia pumila</i>	FPE/--/1B
San Diego button celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE/SE/1B
San Diego goldstar	<i>Muilla clevelandii</i>	--/--/1B
San Diego mesa mint	<i>Pogogyne abramsii</i>	FE/SE/1B
San Jacinto Valley crownscale	<i>Atriplex coronata</i> var. <i>notatior</i>	FE/--/1B
Slender-horned spineflower	<i>Dodecahema leptoceras</i>	FE/SE/1B
Smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	--/--/1B
Summer holly	<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	--/--/1B
SR 163		
California Orcutt grass	<i>Orcuttia californica</i>	FE/SE/1B
Oil nestraw	<i>Stylocline citroleum</i>	--/--/1B
San Diego button celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE/SE/1B
San Diego goldstar	<i>Muilla clevelandii</i>	--/--/1B
San Diego mesa mint	<i>Pogogyne abramsii</i>	FE/SE/1B
Spreading navarretia	<i>Navarretia fossalis</i>	FT/--/1B
I-8		
Brand's phacelia	<i>Phacelia stellaris</i>	--/--/1B
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	--/--/1B
Oil nestraw	<i>Stylocline citroleum</i>	--/--/1B
Otay mesa mint	<i>Pogogyne nudiuscula</i>	FE/SE/1B
Variegated dudleya	<i>Dudleya variegata</i>	--/--/1B
I-5		
Oil nestraw	<i>Stylocline citroleum</i>	--/--/1B
Salt marsh bird's-beak	<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	FE/SE/1B

Federal:

(FE) Federally Endangered, (FPE) Federally Proposed Endangered, (FT) Federally Threatened

State of California:

(SE) State Endangered, (ST) State Threatened

CNPS:

(1B) Rare, Threatened, or Endangered in California and Elsewhere

--- Not Applicable

Source: CDFG, 2002

**Table 2.3-2 Sensitive Plants Potentially Occurring
Within the High-Speed Train Alternative Alignment**

Common Name	Scientific Name	Status Federal/State/CNPS
Union Station to March ARB Segment		
Subsegment 1A1: Union Station to Pomona		
Brand's phacelia	<i>Phacelia stellaris</i>	--/--/1B
Southern skullcap	<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	--/--/1B
Subsegment 1A2: Pomona to Ontario		
----	----	----
Subsegment 1A3: Ontario to Colton		
Marsh sandwort	<i>Arenaria paludicola</i>	FE/SE/1B
Subsegment 1A4: Colton to March ARB		
Marsh sandwort	<i>Arenaria paludicola</i>	FE/SE/1B
Robinson's pepper-grass	<i>Lepidium virginicum</i> var. <i>robinsonii</i>	--/--/1B
Subsegment 1B1: Union Station to Pomona		
Intermediate mariposa lily	<i>Calochortus weedii</i> var. <i>intermedius</i>	--/--/1B
Subsegment 1C1: Ontario to Colton		
Marsh sandwort	<i>Arenaria paludicola</i>	FE/SE/1B
March ARB to Mira Mesa Segment		
Subsegment 2A1: March ARB to Escondido		
California orcutt grass	(<i>Orcuttia californica</i>)	FE/SE/1B
Chaparral sand-verbena	(<i>Abronia villosa</i> var. <i>aurita</i>)	--/--/1B
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>Coulteri</i>	--/--/1B
Jaeger's milk-vetch	<i>Astragalus pachypus</i> var. <i>jaegeri</i>	--/--/1B
Ramona horkelia	<i>Horkelia truncata</i>	--/--/1B
Robinson's pepper-grass	<i>Lepidium virginicum</i> var. <i>robinsonii</i>	--/--/1B
San Jacinto Valley crownscale	<i>Atriplex coronata</i> var. <i>notatior</i>	FE/--/1B
Smooth tarplant	<i>Centromadia pungens</i> ssp. <i>laevis</i>	--/--/1B
Summer holly	<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	--/--/1B
Subsegment 2A2: Within Escondido		
San Diego ambrosia	<i>Ambrosia pumila</i>	FPE/--/1B
Southern tarplant	(<i>Centromadia pungens</i> ssp. <i>laevis</i>)	--/--/1B
Subsegment 2A3: Escondido to Mira Mesa		
Campbell's liverwort	(<i>Geothallus tuberosus</i>)	--/--/1B
Encinitas baccharis	<i>Baccharis vanessae</i>	FT/SE/1B
Nuttall's scrub oak	<i>Quercus dumosa</i>	--/--/1B
Subsegment 2B1: Within Escondido		
----	----	----
Mira Mesa to San Diego Segment		
Subsegment 3A1: Mira Mesa to Qualcomm Stadium		
Encinitas baccharis	<i>Baccharis vanessae</i>	FT/SE/1B

**Table 2.3-2 Sensitive Plants Potentially Occurring
Within the High-Speed Train Alternative Alignment**

Common Name	Scientific Name	Status Federal/State/CNPS
Long-spined spineflower	<i>Chorizanthe polygonoides</i> var. <i>longspina</i>	--/--/1B
Oil nestraw	<i>Stylocline citroleum</i>	--/--/1B
San Diego button celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE/SE/1B
San Diego goldstar	<i>Mulla clevelandii</i>	--/--/1B
San Diego mesa mint	<i>Pogogyne abramsii</i>	FE/SE/1B
San Diego thorn-mint	<i>Acanthomintha ilicifolia</i>	FT/SE/1B
Willoway monardella	<i>Monardella linoides</i> ssp. <i>viminea</i>	FE/SE/1B
Subsegment 3B1: Within Mira Mesa		
Lakeside ceanothus	<i>Ceanothus cyaneus</i>	--/--/1B
Orcutt's brodiaea	<i>Brodiaea orcuttii</i>	--/--/1B
Otay mesa mint	<i>Pogogyne nudiuscula</i>	FE/SE/1B
San Diego button celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE/SE/1B
Summer holly	<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	--/--/1B
Willoway monardella	<i>Monardella linoides</i> ssp. <i>viminea</i>	FE/SE/1B
Subsegment 3B2: Mira Mesa to Downtown San Diego		
Brand's phacelia	<i>Phacelia stellaris</i>	--/--/1B
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	--/--/1B
Nuttall's scrub oak	<i>Quercus dumosa</i>	--/--/1B
Oil nestraw	<i>Stylocline citroleum</i>	--/--/1B
Orcutt's brodiaea	<i>Brodiaea orcuttii</i>	--/--/1B
Otay mesa mint	<i>Pogogyne nudiuscula</i>	FE/SE/1B
Salt marsh bird's-beak	<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	FE/SE/1B
San Diego button celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE/SE/1B
Variegated dudleya	<i>Dudleya variegata</i>	--/--/1B
Willoway monardella	<i>Monardella linoides</i> ssp. <i>viminea</i>	FE/SE/1B
Subsegment 3C1: Within Mira Mesa		
Lakeside ceanothus	<i>Ceanothus cyaneus</i>	--/--/1B
Long-spined spineflower	<i>Chorizanthe polygonoides</i> var. <i>longspina</i>	--/--/1B
Orcutt's brodiaea	<i>Brodiaea orcuttii</i>	--/--/1B
San Diego button celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE/SE/1B

Federal:

(FE) Federally Endangered, (FPE) Federally Proposed Endangered, (FT) Federally Threatened

State of California:

(SE) State Endangered, (ST) State Threatened

CNPS:

(1B) Rare, Threatened, or Endangered in California and Elsewhere

--- Not Applicable

Source: CDFG, 2002

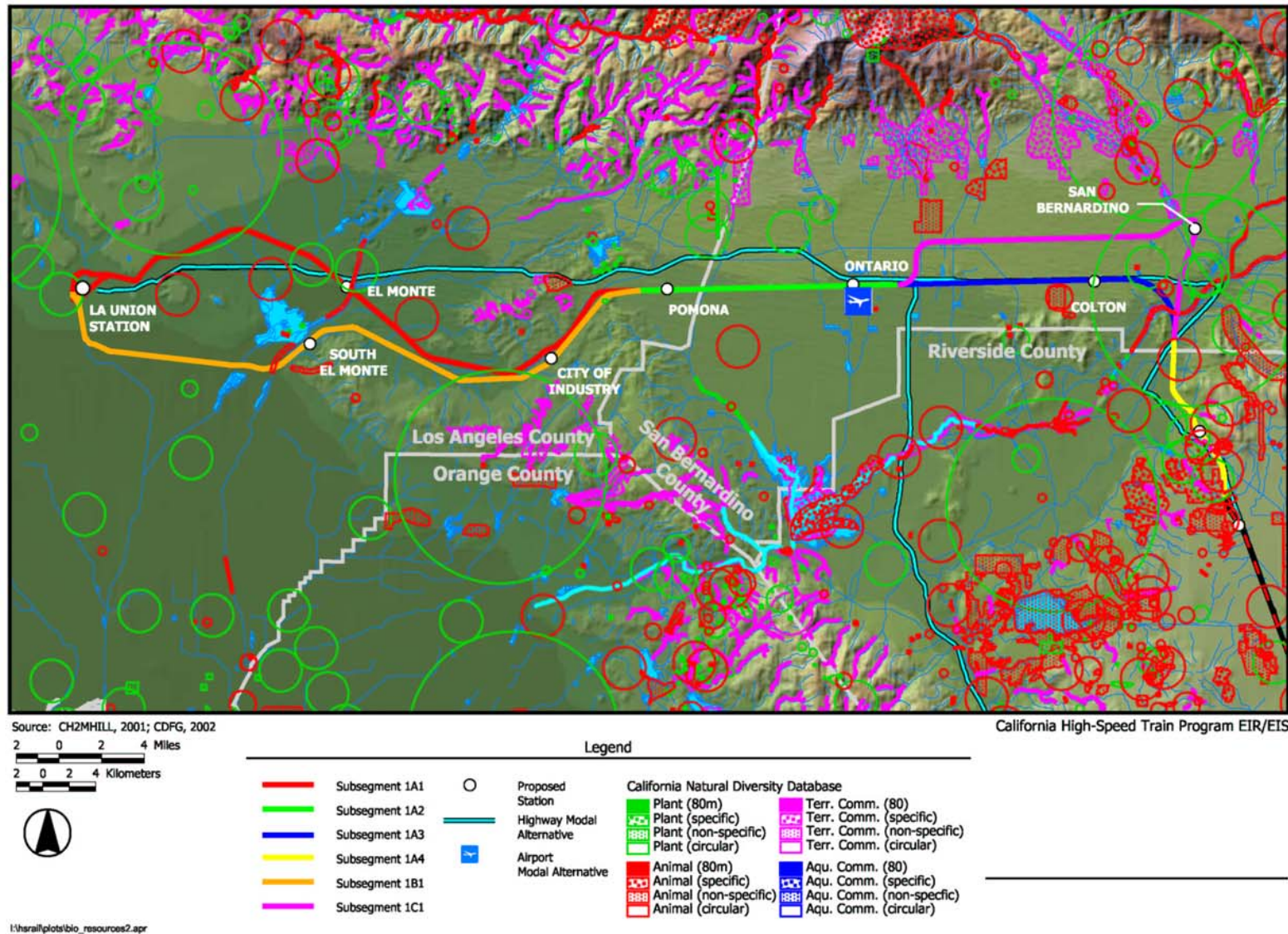


Figure 2.3-4a Threatened and Endangered Species
L.A. Union Station to March ARB

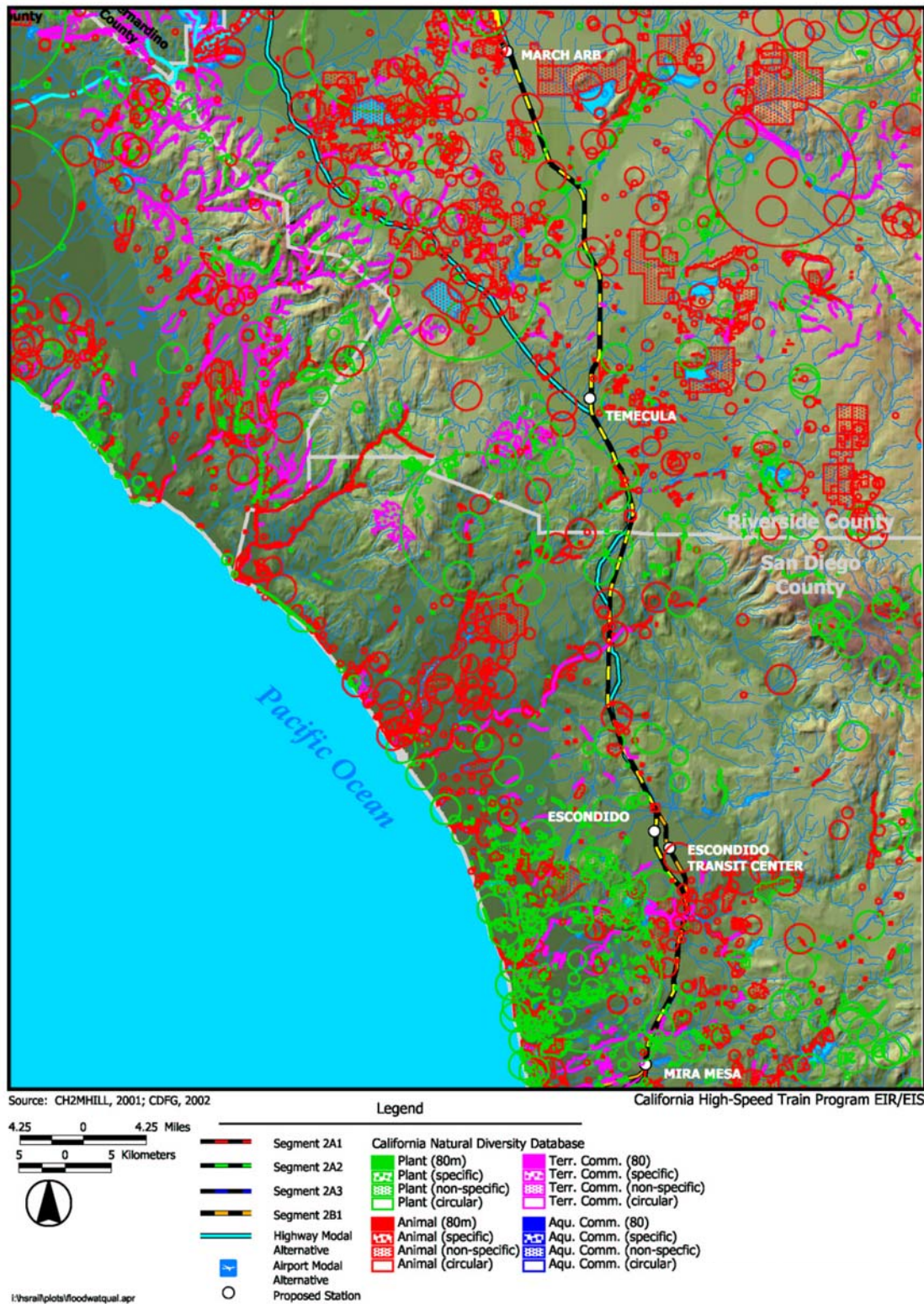
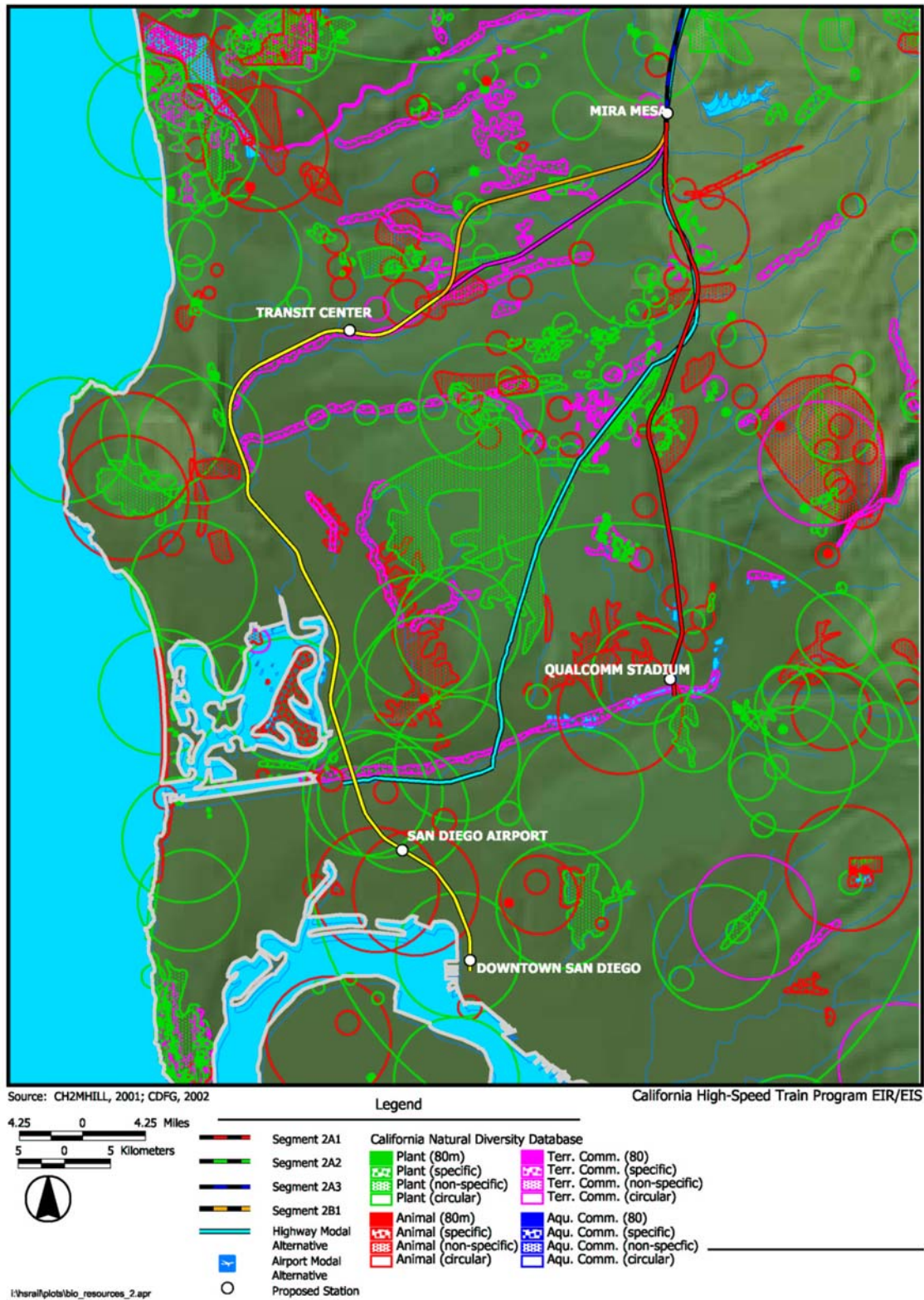


Figure 2.3-4b Threatened and Endangered Species
March AFB to Mira Mesa



**Figure 2.3-4c Threatened and Endangered Species
Mira Mesa to San Diego**

2.4 SENSITIVE WILDLIFE

Sensitive wildlife species include federally and state-listed endangered (FE and SE), threatened (FT and SE) species, federally proposed endangered and proposed threatened (FPE and FPT) species. The explanation of the designated status is provided in Section 2.3.1, Sensitive Plant Species. In addition to the wildlife species, this section also addresses federally recognized proposed critical habitats, wildlife movement/migration corridors, and preserves identified by the CNDDDB. Tables 2.4-1 and 2.4-2 provide lists of sensitive wildlife species potentially occurring within the proposed Modal and HST Alternative alignments, respectively.

**Table 2.4-1 Sensitive Wildlife Potentially
Occurring Within the Modal Alternative Highway Improvements**

Common Name	Scientific Name	Status Federal/State/CNPS
I-10		
Burrowing owl	<i>Athene cunicularia</i>	--/--/CSC
California gnatcatcher	<i>Polioptila californica</i>	FT/--/SC
Los Angeles pocket mouse	<i>Perognathus longimembris brevinasus</i>	--/--/SC
San Diego horned lizard	<i>Phrynosoma coronatum blainvillei</i>	--/--/SC
Santa Ana sucker	<i>Catostomus santaanae</i>	FT/--/SC
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	--/SE/--
I-215		
Golden eagle	<i>Aquila chrysaetos</i>	--/--/SC
Northwestern San Diego pocket mouse	<i>Perognathus fallax fallax</i>	--/--/SC
Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>	--/--/SC
San Diego horned lizard	<i>Phrynosoma coronatum blainvillei</i>	--/--/SC
Stephen's kangaroo rat	<i>Dipodomys stephensi</i>	FE/ST/--
Western spadefoot	<i>Scaphiopus hammondi</i>	--/--/SC
I-15		
Arroyo chub	<i>Gila orcutti</i>	--/--/SC
Arroyo toad	<i>Bufo californicus</i>	FE/--/SC
California gnatcatcher	<i>Polioptila californica</i>	FT/--/SC
California horned lark	<i>Eremophila alpestris actia</i>	--/--/SC
California mastiff bat	<i>Eumops perotis</i>	FSC/--/SC
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE/SE/--
Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>	--/--/SC
San Diego horned lizard	<i>Phrynosoma coronatum blainvillei</i>	--/--/SC
Santa Ana sucker	<i>Catostomus santaanae</i>	FT/--/SC
Stephen's kangaroo rat	<i>Dipodomys stephensi</i>	FE/ST/--

**Table 2.4-1 Sensitive Wildlife Potentially
Occurring Within the Modal Alternative Highway Improvements**

Common Name	Scientific Name	Status Federal/State/CNPS
SR 163		
San Diego horned lizard	<i>Phrynosoma coronatum blainvillei</i>	--/--/SC
I-8		
Light-footed clapper rail	<i>Rallus longirostris levipes</i>	FE/SE/--
I-5		
California least tern	<i>Sterna antillarum browni</i>	FE/SE/--
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FE/--/SC

Federal:

(FE) Federally Endangered, (FPE) Federally Proposed Endangered, (FT) Federally Threatened, (FSC) Federal Species of Concern

State of California:

(SE) State Endangered, (ST) State Threatened

CNPS:

(1B) Rare, Threatened, or Endangered in California and Elsewhere

--- Not Applicable

Source: CDFG, 2002

**Table 2.4-2 Sensitive Wildlife Potentially
Occurring Within the High-Speed Train Alternative Alignment**

Common Name	Scientific Name	Status Federal/State/CDFG
Union Station to March ARB Segment		
Subsegment 1A1: Union Station to Pomona		
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	--/SE/--
Subsegment 1A2: Pomona to Ontario		
----	----	----
Subsegment 1A3: Ontario to Colton		
Burrowing owl	<i>Athene cunicularia</i>	--/--/SC
California gnatcatcher	<i>Poliophtila californica</i>	FT/--/SC
Los Angeles pocket mouse	<i>Perognathus longimembris brevinasus</i>	--/--/SC
San Diego horned lizard	<i>Phrynosoma coronatum blainvillei</i>	--/--/SC
Santa Ana sucker	<i>Catostomus santaanae</i>	FT/--/SC
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	--/SE/--
Subsegment 1A4: Colton to March ARB		
Northwestern San Diego pocket mouse	<i>Perognathus fallax fallax</i>	--/--/SC
Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>	--/--/SC

**Table 2.4-2 Sensitive Wildlife Potentially
Occurring Within the High-Speed Train Alternative Alignment**

Common Name	Scientific Name	Status Federal/State/CDFG
Stephen's kangaroo rat	<i>Dipodomys stephensi</i>	FE/ST/--
Western spadefoot	<i>Scaphiopus hammondi</i>	--/--/SC
Subsegment 1B: Via Union Pacific Riverside		
San Diego horned lizard	<i>Phrynosoma coronatum blainvillei</i>	--/--/SC
Subsegment 1C: Loop Through San Bernardino		
California gnatcatcher	<i>Poliophtila californica</i>	FT/--/SC
Santa Ana sucker	<i>Catostomus santaanae</i>	FT/--/SC
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	--/SE/--
March ARB to Mira Mesa Segment		
Subsegment 2A1: March ARB to Escondido		
Arroyo chub	<i>Gila orcutti</i>	--/--/SC
Arroyo toad	<i>Bufo californicus</i>	FE/--/SC
California gnatcatcher	<i>Poliophtila californica</i>	FT/--/SC
Coronado skink	<i>(Eumeces skiltonianus interarietalis)</i>	--/--/SC
Golden eagle	<i>Aquila chrysaetos</i>	--/--/SC
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE/SE/--
Northern red-diamond rattlesnake	<i>(Crotalus ruber ruber)</i>	--/--/SC
Orange-throated whiptail	<i>(Cnemidophorus hyperythrus)</i>	--/--/SC
San Diego horned lizard	<i>(Phrynosoma coronatum blainvillei)</i>	--/--/SC
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	--/--/SC
Stephen's kangaroo rat	<i>Dipodomys stephensi</i>	FE/ST/--
Western spadefoot	<i>Scaphiopus hammondi</i>	--/--/SC
Western yellow-billed cuckoo	<i>(Coccyzus americanus occidentalis)</i>	--/SE/--
Subsegment 2A2: Within Escondido		
California gnatcatcher	<i>Poliophtila californica</i>	FT/--/SC
Coastal cactus wren	<i>Campylorhynchus brunneicapillus couesi</i>	--/--/SC
Coronado skink	<i>(Eumeces skiltonianus interarietalis)</i>	--/--/SC
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE/SE/--
Southern California rufous-crowned sparrow	<i>(Aimophila ruficeps canescens)</i>	--/--/SC
Subsegment 2A3: Escondido to Mira Mesa		
California gnatcatcher	<i>Poliophtila californica</i>	FT/--/SC
Coastal cactus wren	<i>Campylorhynchus brunneicapillus couesi</i>	--/--/SC

**Table 2.4-2 Sensitive Wildlife Potentially
Occurring Within the High-Speed Train Alternative Alignment**

Common Name	Scientific Name	Status Federal/State/CDFG
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE/SE/--
San Diego desert woodrat	<i>(Neotoma lepida intermedia)</i>	--/--/SC
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	--/--/SC
Subsegment 2B1: Within Escondido		
----	----	----
Mira Mesa to San Diego Segment		
Subsegment 3A1: Mira Mesa to Qualcomm Stadium		
California gnatcatcher	<i>Poliophtila californica</i>	FT/--/SC
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE/SE/--
Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>	--/--/SC
Subsegment 3B1: Within Mira Mesa		
California gnatcatcher	<i>Poliophtila californica</i>	FT/--/SC
Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>	--/--/SC
Subsegment 3B2: Mira Mesa to Downtown San Diego		
California gnatcatcher	<i>Poliophtila californica</i>	FT/--/SC
California least tern	<i>Sterna antillarum browni</i>	FE/SE/--
Light-footed clapper rail	<i>Rallus longirostris levipes</i>	FE/SE/--
Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>	--/--/SC
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FE/--/SC
Subsegment 3C1: Within Mira Mesa		
California gnatcatcher	<i>Poliophtila californica</i>	FT/--/SC
Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>	--/--/SC

Federal:

(FE) Federally Endangered, (FT) Federally Threatened

State of California:

(SE) State Endangered, (ST) State Threatened

CDFG:

(SC) California Species of Concern

--- Not Applicable

Source: CDFG, 2002

2.4.1 Invertebrates

Analysis of the geographic information system (GIS) database and other occurrence records indicates that there are no sensitive invertebrates that occur within the alignment corridors. However, there is a proposed critical habitat for the Quinoa checkerspot butterfly in southwest Riverside (near the I-15 and I-215 junction). Quinoa checkerspot is recognized as federally endangered (FE).

2.4.2 Fishes

Sensitive fish species include the Santa Ana sucker and arroyo chub. The Santa Ana sucker is recognized federally as threatened and as a CDFG species of concern. Within the study area, the Santa Ana sucker is known to occur in portions of the Santa Ana River near Colton (San Bernardino South Quad). Arroyo chub is recognized by the CDFG as a species of concern. This species is known to occur in portions of Temecula Creek, Murrieta Creek, and Santa Ana River.

2.4.3 Reptiles and Amphibians

Sensitive reptiles include the San Diego horned lizard (SC) and the orange-throated whiptail (SC). Within the study area, the horned lizard is known to occur in areas along the San Gabriel River and just south of I-10 near Fontana. The orange-throated whiptail potentially occurs near the San Luis Rey River. Sensitive amphibian species include southwestern arroyo toad (FE/SC), and western spadefoot (SC). The arroyo toad potentially occurs along the San Luis Rey River, and western spadefoot has been documented near March ARB (Riverside East quad) and just north of Escondido near Moosa Creek.

2.4.4 Birds

Sensitive bird species potentially occurring in the study area include the California gnatcatcher federally recognized as threatened (FT/SC), least Bell's vireo (FE/SE), western yellow-billed cuckoo, which is recognized as endangered by the state (SE), western snowy plover (FE/SC), light-footed clapper rail (FE/SE), western burrowing owl (SC), golden eagle (SC), coastal cactus wren (SC). Potential occurrence locations for sensitive bird species include:

- Least Bell's vireo – In association with the Lake Hodges/San Dieguito River Basin and San Luis Rey River
- California gnatcatcher – Near Temecula/Murrieta Creek (Temecula Quad), Lake Hodges/San Dieguito River Basin, San Luis Rey River, Murphy Canyon Road near MCAS Miramar, San Clemente Canyon east of I-15 near MCAS Miramar, and Rose Canyon near MCAS Miramar
- Western yellow-billed cuckoo – Santa Ana River, Santa Margarita River in Temecula
- Western snowy plover – Near San Diego Bay/Airport
- Light-footed clapper rail – Mouth of San Diego River near Morena Boulevard crossing
- Burrowing owl – North of I-10 west of Colton, south of I-10 near Fontana, and east of Perris Valley Drain

2.4.5 Mammals

Sensitive mammals that potentially occur in the study area include the Stephen's kangaroo rat (FE/ST), Los Angeles pocket mouse (SC), and the Northwestern San Diego pocket mouse (SC). Potential occurrence locations for these species include:

- Stephen's kangaroo rat – Associated with Box Springs Reserve, near the University of California at Riverside campus, northwest of March ARB, east of Sun City (Romoland Quad), and south of Clinton Keith Road (Temecula Quad)

- Los Angeles pocket mouse – near Slover Mountain in Colton area (San Bernardino south quad)
- Northwestern San Diego pocket mouse – in Riverside, northwest of March ARB

2.4.6 Wildlife Movement/Migration Corridors

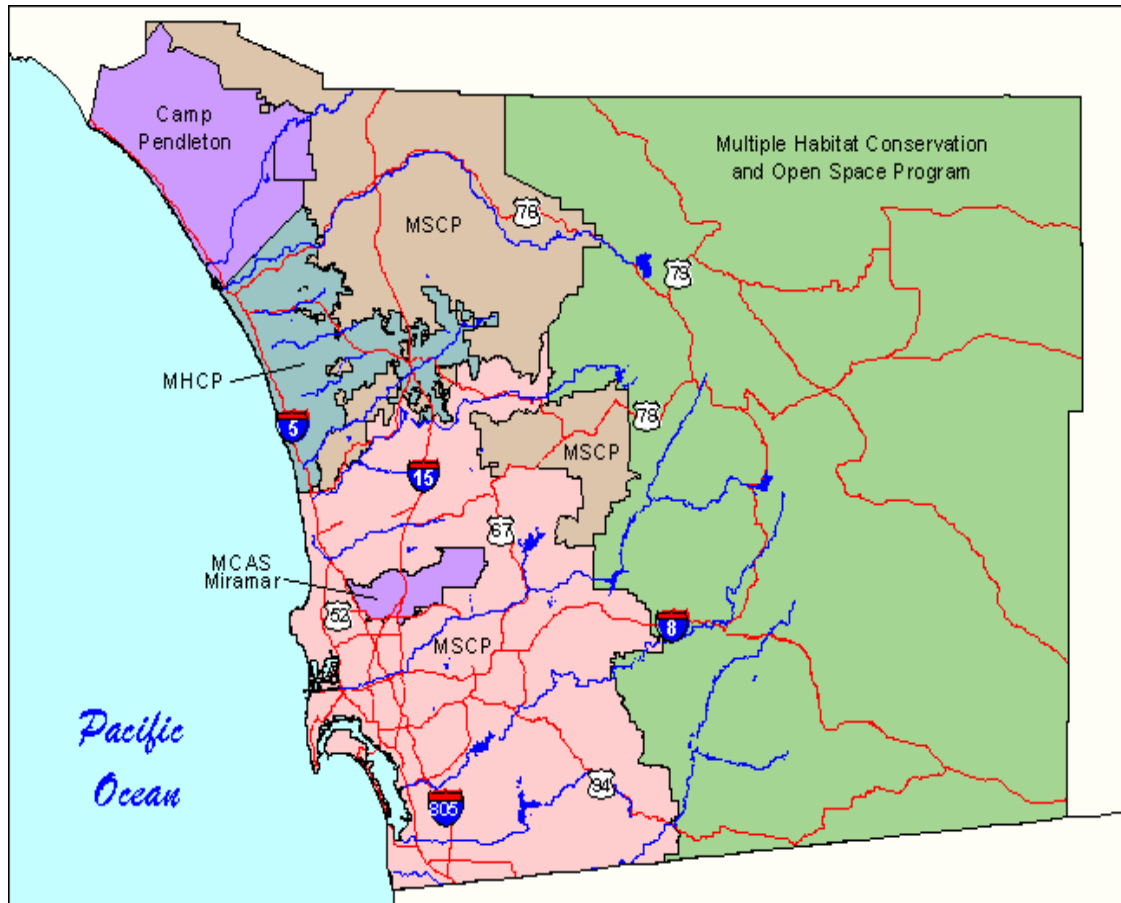
In the study area, sensitive natural areas that provide wildlife movement/migration corridors predominantly occur in association with aquatic systems (streams/river). Potential wildlife migratory corridors include Rio Hondo, San Gabriel River, Santa Ana River, Temecula Creek, Murrieta Creek, Box Springs Reserve, San Jacinto River, San Luis Rey River, Lake Hodges/San Dieguito Marsh, Carroll Canyon, Rose Canyon, San Marcos Creek, Escondido Creek, San Clemente Canyon, Rainbow Creek, and San Diego River. These aquatic systems support riparian vegetation that provide food and cover, enhancing the migratory qualities of the habitat. Important regional wildlife corridors and linkages also may be found adjacent to I-215 near Perris, in the vicinity of March ARB, off I-15 near Clinton Keith Road south of the City of Riverside, and in the Los Penasquitos Canyon Preserve intersected by I-15 near MCAS Miramar. There also are corridors at MCAS Miramar associated with San Clemente Canyon and Rose Canyon and at the Mission Trails Regional Park intersecting I-15 and SR 163.

Critical habitats are specific areas, designated by the USFWS as essential habitats for the conservation of listed species that may require special management considerations. Critical habitats usually contain various natural elements (primary elements), such as food, cover, breeding sites, and water, that are essential for the viability of the species for which that habitat has been designated. Critical habitats are often supported by a Conservation Plan such as a Habitat Conservation Plan (HCP) or a Natural Community Conservation Plan (NCCP). The goal of an HCP may also be aimed at protecting multiple species, as with the proposed Western Riverside County Multiple Species HCP as part of the Riverside County Integrated Project (RCIP) (www.rcip.org).

An HCP, authorized under the Endangered Species Act (ESA), allows the Department of Interior (DOI) to permit potential incidental “take (impacts)” to habitat that support federally listed species, provided these impacts are minimized or mitigated by the permit holder, generally through the development of a recovery plan for the species.

The NCCP program of the California Department of Fish and Game (CDFG) is an effort by the State of California, and numerous private and public partners, that takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. An NCCP identifies and provides for the regional or areawide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The CDFG and the USFWS provide the necessary support, direction, and guidance to NCCP participants in these functions.

The San Diego County Multiple Species Conservation Program (MSCP) is a comprehensive habitat conservation program that addresses multiple species habitat needs and the preservation of native vegetation communities for a 900-square-mile planning area in southwestern San Diego County (www.dfg.ca.gov/nccp/mscp). Figure 2.4-1 depicts the MSCP planning area in southwestern San Diego County. The MSCP is a subregion of the NCCP program coastal sage scrub region. It is one of three subregional habitat conservation efforts in San Diego County, which contribute to preservation of regional biodiversity through coordination with other habitat conservation planning efforts throughout Southern California. Completed in 1998, the MSCP targets 171,917 acres of open space for conservation within the planning area, including over half of all remaining natural habitat areas (167,667 acres) and 4,250 acres of other open spaces (such as disturbed and agricultural lands) that contribute to conservation objectives.



Source: www.dfg.ca.gov/nccp/mscp

- Multiple Species Conservation Program (MSCP)
- Multiple Habitat Conservation Program (MHCP)
- North County Subarea of MSCP
- Multiple Habitat Conservation and Open Space Program
- Military Lands

**Figure 2.4-1 Multiple Species Conservation Plan (MSCP)
in Southwestern San Diego**

Local jurisdictions and special districts will implement their respective portions of the MSCP through subarea plans, which describe specific implementing mechanisms for the MSCP. The MSCP subarea plans collectively contribute to the conservation of vegetation communities and species in the MSCP planning area. The combination of the MSCP subregional plan and subarea plans serves as a multiple species HCP and NCCP pursuant to federal and state laws for endangered species. The conservation measures specified in the MSCP provide for "coverage" of 85 species of plants and animals (called covered species) under these state and federal laws for endangered species. The MSCP also provides for a preserve management program that actively maintains habitat quality and reduces threats to covered species and a subregional biological monitoring program to gauge the progress of the program towards meeting its biological objectives.

The North San Diego County Multi-Species Habitat Conservation Plan (MSHCP) for the area, along the county's northern coast, covers conservation of many natural communities including vernal pools.

In the study area, the critical habitat units designated to protect specific species include:

- Gnatcatcher – MSHCP units near the campus of the University of California at Riverside in Murrieta and Temecula. The East Los Angeles County Matrix NCCP is located near the City of Industry. In addition, a unit near Escondido, as part of the North County subarea of the MSHCP for unincorporated San Diego County, and an area near Lake Hodges (North San Diego County MSHCP) have been designated.
- Least Bell's vireo – At San Luis Rey River (Unit No. F)
- San Bernardino kangaroo rat – At Etiwanda Alluvial Fan Unit near Fontana, and at Lytle and Cajon Creeks Unit in San Bernardino County
- Southwestern willow flycatcher – At San Luis Rey River (Unit No. 17), and at San Dieguito River (San Dieguito River Unit)
- Southwestern Arroyo toad – At San Luis Rey River (Unit No. 14)

The following are proposed critical habitat in the study area:

- A vernal pools critical habitat (San Jacinto-Hemet Unit No. 33 A) is proposed near Perris in Riverside County. It is associated with San Jacinto River and consists of 5,730 acres (50 CFR part 17, vol. 67, No. 185, Tuesday, September 24, 2002).
- A critical habitat for Quinoa checkerspot butterfly (Southwest Riverside Unit) is proposed near Murrieta (50 CFR part 17, vol. 66, No. 26; Tuesday, February 7, 2001).

2.5 JURISDICTIONAL WATERS AND WETLANDS

Jurisdictional waters (or “waters of the U.S.”) is a broad classification that includes waters used in interstate or foreign commerce, waters subject to ebb and flow of tides, all intrastate waters, including wetlands and other waters such as lakes, rivers, streams, mudflats, natural ponds, and wet meadows. For the purposes of this study, the waters of the U.S. have been distinguished between nonwetlands waters (usually consisting of streams and designated as “blue lines”) and wetlands (which meet three jurisdictional criteria for supporting a wetland hydrology, predominance of hydrophytic plants and hydric soils). The USACE has the jurisdictional authority over protection of waters of the U.S. and wetlands under the provisions of the federal Clean Water Act (CWA).

Figures 2.5-1a, b, and c illustrate wetlands in the region based on data in the National Wetlands Inventory.

A number of small lacustrine wetlands, predominately man-made detention ponds that have been naturalized, occur scattered along I-10. The most sensitive and biologically productive wetlands area that occurs along the entire study area is the lacustrine/palustrine marsh wetlands area associated with the Lake Hodges/San Dieguito River off I-215 (Figure 2.5-2).

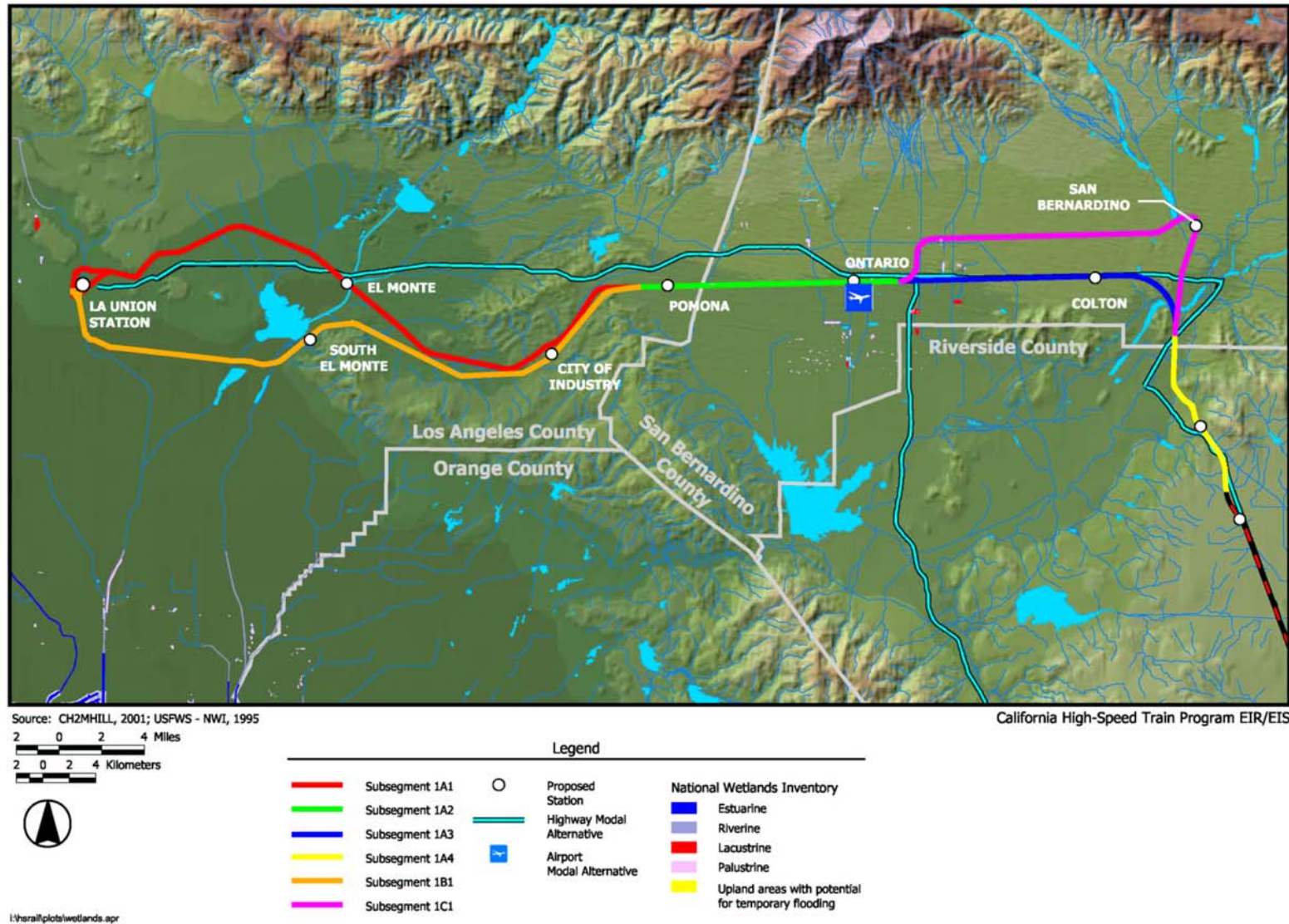
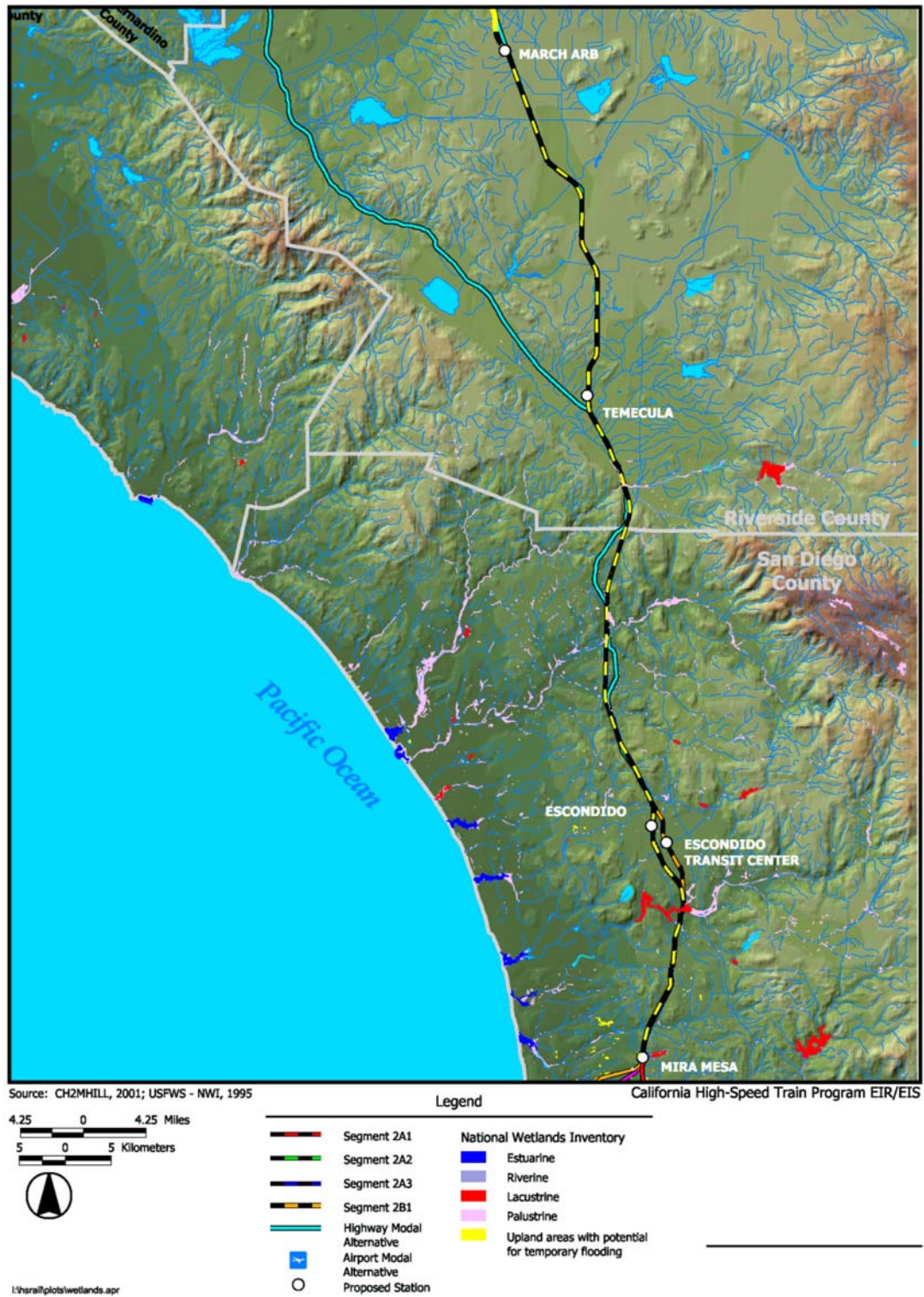


Figure 2.5-1a National Wetlands Inventory
L.A. Union Station to March ARB



**Figure 2.5-1b National Wetlands Inventory
March ARB to Mira Mesa**

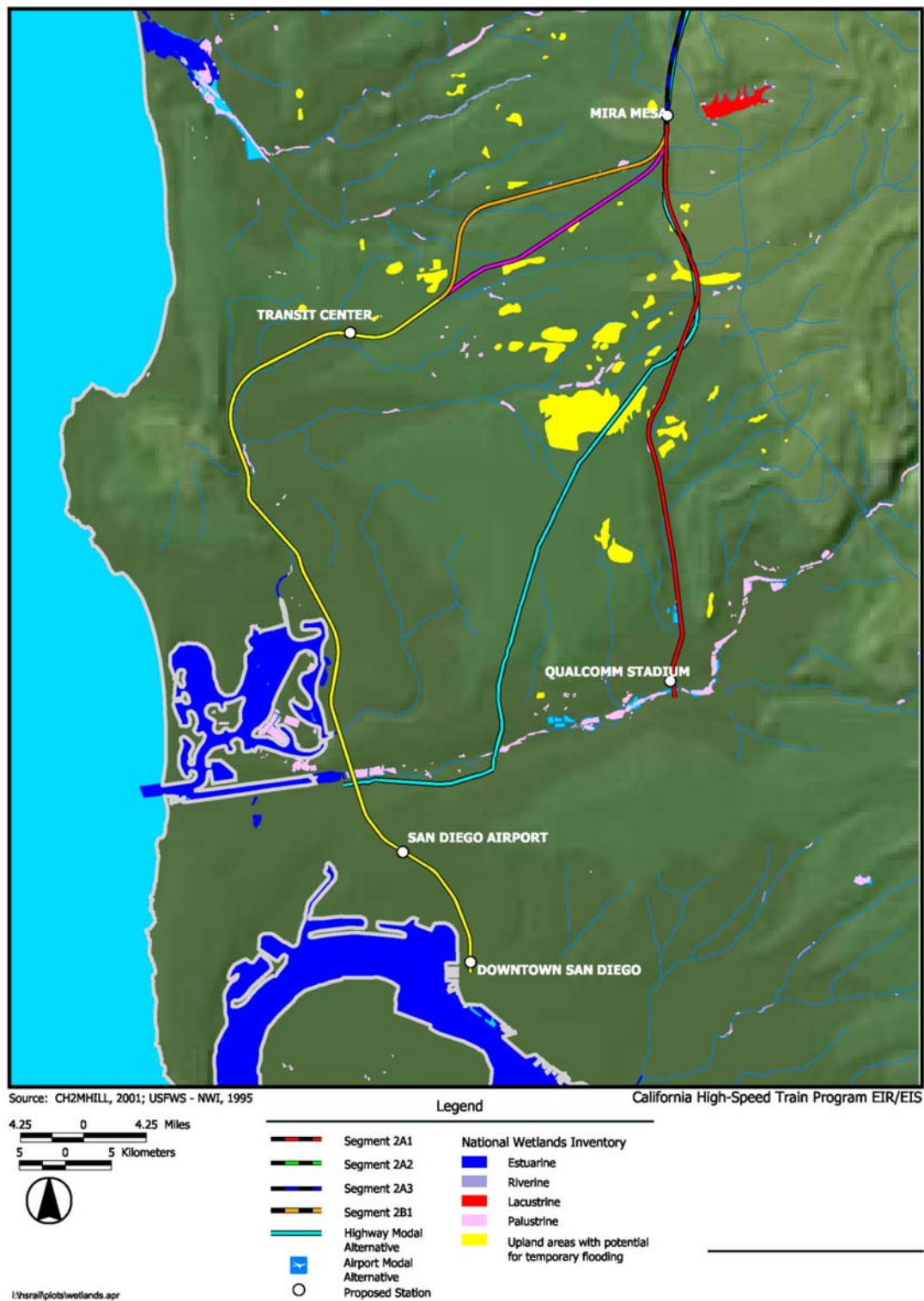


Figure 2.5-1c National Wetlands Inventory
March ARB to Mira Mesa



Figure 2.5-2 San Dieguito (Lake Hodges) Lacustrine/Palustrine Wetlands

Tables 2.5-1 and 2.5-2 provide a list of nonwetland waters of the U.S. that potentially occur along the proposed Modal and HST Alternatives.

**Table 2.5-1 Major Nonwetland Waters of the U.S.
Occurring Within the Modal Alternative Highway Improvements**

Name of Body of Water
I-10
Alhambra Wash
Rubio Wash
Rio Hondo
San Gabriel River
Big Dalton Wash
Walnut Creek
San Jose Creek
San Antonio Wash
West Cucamonga Channel
Cucamonga Creek
Lower Deer Creek Channel
Day Creek Channel
Lower Etiwanda Creek Channel
Etiwanda-San Sevaine Flood Control Channel
Mulberry Creek
Santa Ana River
I-215
Riverside Canal Aqueduct
Gage Canal
East Branch of the California Aqueduct

**Table 2.5-1 Major Nonwetland Waters of the U.S.
Occurring Within the Modal Alternative Highway Improvements**

Name of Body of Water
Sycamore Canyon Creek
Val Verde Tunnel-Colorado River Aqueduct
Reche Canyon
I-15
Santa Ana River
Arlington Channel
Temescal Wash
Joseph Wash
Bedford Wash
McBride Canyon
Coldwater Canyon
Indian Canyon
Lee Lake
Horsethief Canyon
Alberhill Creek
San Jacinto River
Warm Springs Creek
Santa Gertrudis Creek
Murrieta Creek
San Diego Aqueduct
Rainbow Creek
Second San Diego Aqueduct
San Dieguito Creek
Santa Ysabel Creek
Escondido Creek
Siphon Vista Canal
San Marco Creek
Los Penasquitos Canyon
Cypress Canyon
Carroll Canyon
Rose Canyon
SR 163
San Clemente Canyon
San Diego River
I-5
San Diego River

**Table 2.5-2 Major Nonwetland Waters of the U.S.
Occurring Within the High-Speed Train Alternative Alignment**

Name of Body of Water
Union Station to March ARB Segment
Subsegment 1A1: Union Station to Pomona
Los Angeles River
Rio Hondo
San Gabriel River
Willow Creek
San Jose Creek
Subsegment 1A2: Pomona to Ontario
San Antonio Wash
West Cucamonga Channel
Cucamonga Creek
Lower Deer Creek Channel
Subsegment 1A3: Ontario to Colton
Day Creek Channel
Lower Etiwanda Creek Channel
Etiwanda-San Sevaine Flood Control Channel
Mulberry Creek
Santa Ana River
Riverside Canal Aqueduct
Subsegment 1A4: Colton to March ARB
Riverside Canal Aqueduct
Gage Canal
East Branch of the California Aqueduct
Box Springs
Sycamore Canyon Creek
Subsegment 1B1: Union Station to Pomona
Los Angeles River
Rio Hondo
San Gabriel River
San Jose Creek
Subsegment 1C1: Ontario to Colton
Etiwanda Creek Channel
Etiwanda-San Sevaine Flood Control Channel
Lytle-Cajon Channel
East Branch Lytle Creek
Lytle Creek Wash
Santa Ana River
March ARB to Mira Mesa Segment
Subsegment 2A1: March ARB to Escondido
Val Verde Tunnel-Colorado River Aqueduct
Perris Valley Storm Drain

**Table 2.5-2 Major Nonwetland Waters of the U.S.
Occurring Within the High-Speed Train Alternative Alignment**

Name of Body of Water
San Jacinto River
Warm Springs Creek
Santa Gertrudis Creek
Murrieta Creek
San Luis Rey River
Keys Creek
Subsegment 2A2: Within Escondido
Escondido Creek
Siphon Vista Canal
San Marcos Creek
Subsegment 2A3: Escondido to Mira Mesa
San Dieguito River
Los Penasquitos Canyon Creek
Cypress Canyon
Subsegment 2B1: Within Escondido
Santa Ysabel Creek
Mira Mesa to San Diego Segment
Subsegment 3A1: Mira Mesa to Qualcomm Stadium
San Diego Aqueduct
Carroll Canyon
Rose Canyon
San Clemente Canyon
San Diego River
Subsegment 3B1: Within Mira Mesa
Carroll Canyon
Rose Canyon
Subsegment 3B2: Mira Mesa to Downtown San Diego
Rose Canyon
San Clemente Canyon
Tecolote Creek
San Diego River Floodway
Subsegment 3C1: Within Mira Mesa
Carroll Canyon
Rose Canyon

3.0 EVALUATION METHOD

As a first step in the biological resources impact analysis, the project GIS database in ARC/View was utilized to identify the various resources existing along the proposed alignment from Los Angeles to San Diego via the Inland Empire corridor. The various proposed segments and station locations for the Modal and HST Alternatives were included in the analysis.

The extent of the biological resources impact analysis conducted for the alignment, including the various segments and station locations, was limited to:

- 1,000 feet around stations and on both sides of the corridors in developed areas
- 0.25-mile around stations and on both sides of the corridors in undeveloped areas
- 0.50-mile around the stations and on both sides of the corridors in sensitive areas (lagoons/wildlife corridors)

These threshold limits for potential impacts were utilized to create a “zone of impact” for the entire corridor, utilizing the GIS. Next, various GIS layers, including those depicting bodies of water (blue lines), wetlands communities (national wetlands inventory [NWI]), vegetative communities, and CNDDB information with sensitive species and critical habitats were overlaid on the segments to display the various natural resources occurring within the impact zone. Next, the extent of these resources (acres of wetlands, linear distance of nonwetland waters of the U.S.) and sensitive plant and animal species occurring within this zone of impact were quantified.

The impact thresholds established above are considered to be potential impacts occurring during the construction phase of the proposed project. For this study, potential impacts occurring during the operational phase were not quantified. This is because proposed developments along almost the entire length of the segments under the Modal and HST Alternatives would occur in developed areas where there are existing urban infrastructures such as interstate roadways, railroads and airports. Therefore, the operational impacts would not result in substantial cumulative impacts. In addition, in the nonurban areas, once the alignment corridors are constructed (i.e., cessation of construction impacts), there would be minimal maintenance required of the proposed facilities.

4.0 IMPACTS TO BIOLOGICAL RESOURCES AND JURISDICTIONAL WATERS

Impacts for the proposed project could be broadly distinguished into construction impacts and operational impacts. Construction impacts are generally short-term impacts, primarily occurring during the construction phase of the project, while operational impacts are long-term impacts, which may occur over the entire operational and maintenance life of the project. Examples of construction impacts include earth disturbance activities such as grading, excavating, impacts from construction vehicles and equipment, erosion and runoff from disturbed areas, and accidental spills of hazardous substances such as paints, grease and solvents. Examples of potential operational impacts include lighting and noise.

4.1 NO-PROJECT ALTERNATIVE

The No-Project Alternative represents the state transportation systems (highways, airports, and railways) as they existed in 1999 and as they would exist after implementation of several proposed projects intended as system upgrades. These upgrades are scheduled to be funded by 2020. A list of these proposed projects are listed in the *System Alternatives Definition Report* (Parsons Brinckerhoff, 2002).

The No-Project Alternative assumes that others would complete projects including improvements to local, state, and interstate transportation systems and airports designated in existing plans and programs. It is assumed that no additional biological resources impacts would occur beyond those addressed in the environmental documents for these projects and that any impacts to biological resources would be mitigated as part of those projects. Therefore, the No-Project Alternative is assumed to have no impacts to biological resources.

4.2 MODAL ALTERNATIVE

4.2.1 Potential Impacts to Biological Resources from Highway Expansion

Highway improvements proposed for the I-15 segment potentially would result in impacting the most sensitive plant species (18 species), of which 6 are federal/state-listed species and 1 is a federally proposed as endangered species (Table 2.3-2). The proposed highway expansion potentially would result in impacting 10 different sensitive vegetation communities. The I-15 segment would result in the most impacts to sensitive vegetation, including:

- 673 acres of coastal sage scrub
- 4,881 acres of chamise chaparral
- 377 acres of mixed chaparral
- 950 acres of orchards and vineyards
- 198 acres of southern cottonwood-willow riparian forest
- 99 acres of southern riparian forest
- 95 acres of mulefat scrub

The I-15 segment also would result in 166,574 feet of impacts to nonwetlands waters of the U.S. and 531 acres of wetlands that includes 36 acres of vernal pools. Wildlife corridors that potentially may be impacted include: Rio Hondo, San Gabriel River, Santa Ana River, Murrieta Creek, San Jacinto River, San Dieguito Creek, Carroll Canyon, Rose Canyon, San Marcos Creek, Escondido Creek, San Clemente Canyon, Rainbow Creek, San Diego River, and Los Penasquitos Canyon Creek.

4.2.2 Potential Impacts to Biological Resources from Airport Expansion

Tables 4.2-1, 4.2-2 and 4.2-3 list the potential sensitive plants, sensitive wildlife and major nonwetlands waters of the U.S. occurring within the proposed Modal Alternative (airport) expansion footprint. The proposed expansion at ONT would result in 23,346 linear feet of nonwetland waters and 1.76 acres of wetlands, while proposed development at SAN potentially would impact 45.7 acres of estuarine wetlands. There are potentially four sensitive plant species identified within the SAN development footprint, with one species federally listed (Table 4.2-1). In addition, two federal/state-listed wildlife species identified at SAN and one sensitive species (San Diego horned lizard) identified within the proposed ONT development footprint.

4.2.3 Summary of Impacts from the Modal Alternative

Of the various developments proposed for the highway Modal Alternative, the I-15 segment potentially would result in significant impacts to biological resources. These significant impacts would include impacts to sensitive vegetation communities and vernal pools just north of MCAS Miramar.

With respect to the proposed development relative to airports, potential impacts at SAN would be considered significant, especially relative to the estuarine wetlands of the San Diego Bay. These wetlands are known to support the federally listed as endangered California least tern and western snowy plover.

**Table 4.2-1 Sensitive Plants Potentially
Occurring Within the Modal Airport Alternative**

Common Name	Scientific Name	Status Federal/State/CNPS
Ontario Airport		
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San Diego International Airport		
Brand's phacelia	<i>Phacelia stellaris</i>	--/--/1B
Variegated dudleya	<i>Dudleya variegata</i>	--/--/1B
Oil nestraw	<i>Stylocline citroleum</i>	--/--/1B
Salt marsh bird's-beak	<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	FE/SE/1B

Federal:

(FE) Federally Endangered

State of California:

(SE) State Endangered

CNPS:

(1B) Rare, Threatened, or Endangered in California and Elsewhere

--- Not Applicable

Source: CDFG, 2002

**Table 4.2-2 Sensitive Wildlife Potentially
Occurring Within the Modal Airport Alternative**

Common Name	Scientific Name	Status Federal/State/CDFG
Ontario Airport		
San Diego horned lizard	<i>Phrynosoma coronatum blainvillei</i>	--/--/SC
San Diego International Airport		
California least tern	<i>Sterna antillarum browni</i>	FE/SE/--
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FE/--/SC

Federal:

(FE) Federally Endangered

State of California:

(SE) State Endangered

CDFG:

(SC) California Species of Concern

--- Not Applicable

Source: CDFG, 2002

**Table 4.2-3 Major Nonwetland Waters
of the U.S. Occurring Within the Modal Airport Alternative**

Name of the Body of Water
Ontario Airport
West Cucamonga Channel
Cucamonga Creek
Lower Deer Creek Channel
San Diego International Airport
None

4.3 HIGH-SPEED TRAIN ALTERNATIVE

4.3.1 Impacts to Biological Resources from Regional Segment 1

This route from Union Station to March ARB consists of the proposed Segments 1A, 1B, and 1C, with station locations at El Monte, Pomona, Ontario, Colton, University of California at Riverside, South El Monte, City of Industry, and San Bernardino.

4.3.1.1 Sensitive Vegetation

The following is an estimate of potential impacts to sensitive vegetation communities from each of the proposed segments.

- Segment 1A – 115 acres of annual grasslands, 132 acres of southern cottonwood riparian, 47 acres of southern sycamore - alder riparian
- Segment 1B – 113 acres of annual grasslands
- Segment 1C – 132 acres of southern cottonwood-willow riparian

Potential vegetation impacts for each of the individual segments under the subsegments are provided in Table 4.4-1. There are no impacts to sensitive vegetation anticipated from construction of the stations because the proposed locations are in developed urban areas with no sensitive vegetation communities within the proposed development footprint.

4.3.1.2 Sensitive Wildlife

Tables 2.4-1 and 2.4-2 list the sensitive wildlife species potentially occurring along the Modal and HST Alternatives proposed subsegments, respectively.

The proposed HST Alternative subsegments under the Union Station to March ARB segment potentially would result in impacts to 11 sensitive wildlife species. This includes species of three birds, three mammals, one fish, two reptiles, and one amphibian. Four are federal/state-listed species. The most species impacted within this segment potentially would occur from Subsegment 1A3, Ontario to Colton (Table 4.4-1).

4.3.1.3 Jurisdictional Waters

Tables 2.5-1 and 2.5-2 list the major nonwetland waters of the U.S. (United States Geological Survey [USGS] "blue lines") that potentially would be impacted by the subsegments proposed under the Modal and HST Alternatives, respectively. Table 4.4-1, Biological Resources Impact Comparison Matrix, identifies the estimate of impacts to nonwetland and wetland jurisdictional waters. A total of 273,935 feet of nonwetland U.S. waters and 3.34 acres of wetlands would be potentially impacted. Subsegment 1B1, Union Station to Pomona, would result in the most impacts to waters of the U.S.

4.3.1.4 Wildlife Corridors

This subsegment has the potential to impact four wildlife corridors. The corridors include: Rio Hondo, San Gabriel River, Santa Ana River, and Box Springs Reserve.

4.3.2 Impacts to Biological Resources from Regional Segment 2

4.3.2.1 Sensitive Vegetation

The proposed subsegments under the March ARB to Mira Mesa segment would result in the following impacts to vegetation communities.

- 436 acres of coastal sage scrub
- 34 acres of annual grasslands
- 4,041 acres of chamise chaparral
- 98 acres of mixed chaparral
- 3,165 acres of orchards and vineyards
- 99 acres of southern riparian forest
- 116 acres of southern cottonwood-willow riparian.

Subsegment 2A1, March ARB to Escondido, potentially would result in maximum impacts to sensitive vegetation (Table 4.4-1).

4.3.2.2 Sensitive Wildlife

Sensitive wildlife species potentially impacted by the subsegments proposed under the March ARB to Mira Mesa segment include a total of 15 sensitive species, of which 7 birds, 2 mammals, 5 amphibians, and

1 fish species occur. Four of these species are federal/state listed. Subsegment 2A1, March ARB to Escondido, potentially would result in impacting the most number of sensitive species (Table 4.4-1).

4.3.2.3 Jurisdictional Waters

A total of 109,978 feet of nonwetland waters of the U.S. and 405 acres of wetlands potentially would be impacted. Subsegment 2A1, March ARB to Escondido, potentially would result in the most impacts to jurisdictional waters (Table 4.4-1).

4.3.2.4 Wildlife Corridors

This subsegment has the potential to impact eight wildlife corridors. The corridors include: San Jacinto River, Murrieta Creek, Rainbow Creek, San Luis Rey River, Escondido Creek, San Marcos Creek, San Dieguito Creek, and Los Penasquitos Canyon Creek.

4.3.3 Impacts to Biological Resources from Regional Segment 3

4.3.3.1 Sensitive Vegetation

The proposed subsegments under the Mira Mesa to San Diego segment would result in the following impacts to vegetation communities.

- 2,400 acres of mixed chaparral
- 69 acres of southern cottonwood-willow riparian
- 412 acres of southern riparian scrub
- 31 acres of riparian scrub

Subsegment 3A1, Mira Mesa to Qualcomm Stadium, potentially would result in maximum impacts to sensitive vegetation (Table 4.4-1).

4.3.3.2 Sensitive Wildlife

Sensitive wildlife species potentially impacted by the subsegments proposed under the Mira Mesa to San Diego segment include a total of six sensitive species, of which five bird and one reptile species occur. Five species are federal/state listed. Subsegment 3B2, Mira Mesa to Downtown San Diego, potentially would result in impacting the most number of sensitive species (Table 4.4-1).

4.3.3.3 Jurisdictional Waters

A total of 137,729 feet of nonwetland waters of the U.S. and 823 acres of wetlands potentially would be impacted. Subsegment 3A1 potentially would result in the most impacts to jurisdictional waters, including impacts to approximately 74 acres of vernal pools (Table 4.4-1).

4.3.3.4 Wildlife Corridors

This subsegment has the potential to impact four wildlife corridors. The corridors include: Carroll Canyon, Rose Canyon, San Clemente Canyon, and San Diego River.

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